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IS 4561-5 (1968): Oil Cans, Part V: Lever Type Oil Cans
[PGD 19: Lubricating Equipments]



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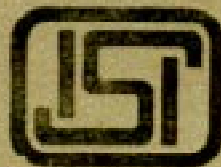
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IS : 4561 (Part V) - 1968

Indian Standard
SPECIFICATION FOR OIL CANS
PART V LEVER TYPE OIL CANS
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INDIAN STANDARDS INSTITUTION
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NEW DELHI 110002

Indian Standard SPECIFICATION FOR OIL CANS

PART V LEVER TYPE OIL CANS

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI

Indian Standard

SPECIFICATION FOR OIL CANS

PART V LEVER TYPE OIL CANS

0. FOREWORD

0.1 This Indian Standard (Part V) was adopted by the Indian Standards Institution on 26 July 1968, after the draft finalized by the Lubricating Equipment Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 This standard lays down the requirements and the methods of test for three types of lever type oil cans commonly used in this country. The main difference in the three types of oil cans lies in the material and manufacture of the spouts and their fixing arrangement to the faucets. For use, the nozzle is directed over or into the oiler hole and the lever is pressed to push the outer barrel upwards and at the same time lift the ball up. Simultaneously the oil is pushed out and flows through the nozzle into oiler hole. The operation is repeated in quick succession till the required lubrication is achieved.

0.3 This standard is being issued in the following five parts:

- Part I Light duty oil cans
- Part II Conical oil cans
- Part III Feeding oil cans
- Part IV Detachable spout oil cans
- Part V Lever type oil cans

0.4 While preparing this standard assistance has been derived from the following:

IND/GS/1146 Specification for cans oil, lubricating 250 ml rigid spout. Ministry of Defence, Government of India.

IND/GS/1168 Specification for cans oil, filling, shock absorber grey coloured $\frac{1}{2}$ pint. Ministry of Defence, Government of India.

Drawing No. CSDS/T & I/12 (b) Cans oil, $\frac{1}{4}$ pint, fold over spout. Ministry of Defence, Government of India.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated,

expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard (Part V) covers the requirements for lever type oil cans for general purposes.

2. NOMENCLATURE

2.1 For the purpose of this standard, the nomenclature as given in Fig. 1 shall apply.

3. TYPES

3.1 The lever type oil cans shall be of the following types:

- a) Lever type oil cans, rigid spout (Type A);
- b) Lever type oil cans, flexible spout (Type B); and
- c) Lever type oil cans, fold over spout (Type C).

4. MATERIAL

4.1 The body, faucet, cap, handle; lever, bracket and neck tube for oil cans of Types B and C and spouts for oil cans of Types A and C shall be manufactured from tinplate of Best Coke Grade (BC) conforming to IS : 597-1962†.

4.2 The collar, nozzle and nut for oil can of Type A; screwed neck, nut union, plug end, nozzle end and nozzle adapter for oil can of Type B; packing gland, packing nut, taper plug, nozzle, blind cap, thread boss and extension for oil can of Type C shall be manufactured from free cutting brass conforming to IS : 319-1962‡.

4.3 The outer barrel and the inner barrel shall be manufactured from brass tubing conforming to IS : 407-1961§.

4.4 The valves shall be manufactured from steel having 0.85 to 1.00 percent carbon and shall have a hardness of 700 to 800 HV (see IS : 1501-1959||).

*Rules for rounding off numerical values (revised).

†Specification for black plate for tinning and tinplate (pack rolled) (revised).

‡Specification for free cutting brass rods and sections (revised).

§Specification for brass tubes for general purposes (revised).

||Methods for Vickers hardness test for steel.

IS : 4561 (Part V) - 1968

4.5 The springs shall be manufactured from steel wire conforming to Grade 3 of IS : 727-1964*.

4.6 The nozzle for oil cans of Type B shall be manufactured from copper tubing conforming to IS : 2501-1963†.

4.7 The flexible spout for oil cans of Type B shall be manufactured from steel strips and asbestos strings.

4.8 The pins shall be manufactured from tinned mild steel rods. Cap washer and packing gland washer for oil cans of Type C shall be manufactured from synthetic rubber or curried buffalo leather. The stopper spring for oil can of Type B shall be manufactured from brass sheet 0.7 mm thick. Spring washer of oil cans of Type C shall be manufactured from phosphor bronze.

4.9 The brackets shall be made from 1.2 mm tinned mild steel sheet.

5. CAPACITY AND DIMENSIONS

5.1 The capacity of the oil cans shall be as follows:

Type	Capacity
	ml
A	250
B	250
C	125

5.2 The main dimensions for lever type oil cans are indicated in Fig. 2, 3 and 4.

5.2.1 Dimensions for barrel and springs shall be as shown in Fig. 5.

5.2.2 Thread form for round thread shall be as shown in Fig. 6.

6. MANUFACTURE

6.1 The body and the faucet for oil cans shall be pressed out from single sheet. The faucet shall be tightly fitted over the body and securely soldered all round.

6.2 The inner barrel shall be a good slide fit into the outer barrel. The valve seating on the barrels shall be even and smooth so that the valves sit properly and there is no back flow of oil while pumping. The pumping mechanism shall work without any undue stiffness and play.

*Hard drawn carbon steel wire for springs for general engineering purposes (revised).

†Specification for copper tubes for general engineering purposes.

6.3 The nozzle for oil cans of Type A shall be push fit over the spout and securely soldered all round. The movement of the flexible spout for oil cans of Type B shall neither be too stiff nor too loose and there shall be no leakage through the coils.

6.4 The threads shall be full and accurate.

6.5 The oil cans shall be painted on the exterior with a suitable paint such as conforming to IS : 2932-1964*. The colour of paint shall be as agreed to between the purchaser and the supplier.

7. WORKMANSHIP AND FINISH

7.1 The oil cans shall be free from splits, dents, burrs, sharp edges and other defects.

7.2 The flexible metallic tubing for oil cans of Type B shall be zinc plated (*see* IS : 1573-1960†) or given any other suitable surface treatment.

7.3 The washers shall be perfectly flat, free from cracks and uneven edges which may cause leakage of the oil.

7.4 The painting shall be uniform and shall be free from uncovered surface. The paint coatings shall be firmly adherent to surface and shall not flake off.

8. DESIGNATION

8.1 The lever type oil cans shall be designated by:

- a) commonly used name,
- b) type, and
- c) number of this standard.

Example:

A lever type oil can of Type B shall be designated as:
Oil Can B, IS : 4561 (Part V)

9. MARKING

9.1 The lever type oil cans shall be marked with manufacturer's name, trade mark, type and the capacity.

*Specification for enamel, synthetic, exterior, Type 1 (a) undercoating.
(b) finishing, colour as required.

†Specification for zinc plating.

IS : 4561 (Part V) - 1968

9.1.1 The oil cans may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

10. PACKING

10.1 The oil cans shall be given a flow coating with any corrosion preventive fluid at room temperature. Fluid conforming to IS : 1153-1957* is one of the fluids suitable for this purpose. Each oil can shall be securely wrapped in waxed paper and then packed in good quality waterproof packings. The packings shall be securely encased in wooden cases and shall be marked with manufacturer's name or trade-mark and the description of the contents.

10.1.1 The wooden cases may also be marked with the ISI Certification Mark (*see* NOTE under **9.1.1**).

11. SAMPLING

11.1 Unless otherwise agreed to between the buyer and the supplier the sampling plan as given in Appendix A shall be followed. For further information reference may be made to IS : 2500 (Part I)-1963†

12. TESTS

12.1 Discharge Test — The discharge of oil from oil cans in 10 strokes shall not be less than 8 ml.

12.2 Leakage Test — There shall be no leakage of oil when the oil can is turned up side down with the nozzle opening closed.

12.3 Compression Test

12.3.1 The conical spring, the valve spring and the pin spring shall be kept closed under a load of 125 gf, 250 gf, 2000 gf respectively so

*Specification for temporary corrosion preventive, fluid, hard film, solvent desposited.

†Sampling inspection tables: Part I Inspection by attributes and by count of defect.

as to have coil to coil contact for 5 minutes and the load released. The spring shall show no sign of permanent set at the end of the test.

12.3.2 The springs, when completely closed and released 200 times in quick succession, shall show no sign of permanent set.

APPENDIX A

(Clause 11.1)

SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

A-1. SCALE OF SAMPLING

A-1.1 Lot — In any consignment, all the oil cans of the same type and manufactured from the same material under essentially similar conditions of production shall be grouped together to constitute a lot.

A-1.2 For ascertaining the conformity of the lot to the requirements of the specification, tests shall be carried out for each lot separately. The number of oil cans to be selected at random for this purpose shall be in accordance with col 1 and 2 of Table 1.

TABLE 1 SAMPLE SIZE AND CRITERIA FOR CONFORMITY

NUMBER OF OIL CANS IN THE LOT <i>N</i> (1)	SAMPLE SIZE <i>n</i> (2)	PERMISSIBLE NUMBER OF DEFECTIVES (3)
Up to 50	5	0
51 „ 150	8	1
151 „ 300	13	1
301 „ 500	20	2
501 and above	32	3

A-1.3 The oil cans for the testing shall be selected at random from the lot. In order to ensure the randomness of selection, random number tables shall be used. In case such tables are not available, the following procedure for selection may be adopted:

Starting from any oil can in the lot, count them in one order as 1,2,3,....., up to r and so on, where r is the integral part of N/n (N being the lot size and n the sample size). Every r th oil can thus counted shall be selected to constitute the sample.

IS : 4561 (Part V) - 1968

A-1.4 When the oil cans for the sample are to be selected from the packaged cases, a suitable number of cases (not less than 20 percent of the total cases in the lot subject to a minimum of 2 cases) shall be first chosen at random. From each of the cases so chosen, an approximately equal number of cans shall be picked up from different parts so as to obtain the required number of cans for the sample as specified in col 2 of Table 1.

A-2. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

A-2.1 The oil cans selected according to **A-1.2** shall be examined for capacity and dimensions (*see 5*), manufacture (*see 6*), workmanship and finish (*see 7*), and tests (*see 12*). The lot shall be considered as having satisfied the requirements of the standard, if the number of defective cans failing to meet the requirements for any one or more of the characteristics is less than or equal to the permissible number of defectives given in col 3 of Table 1.

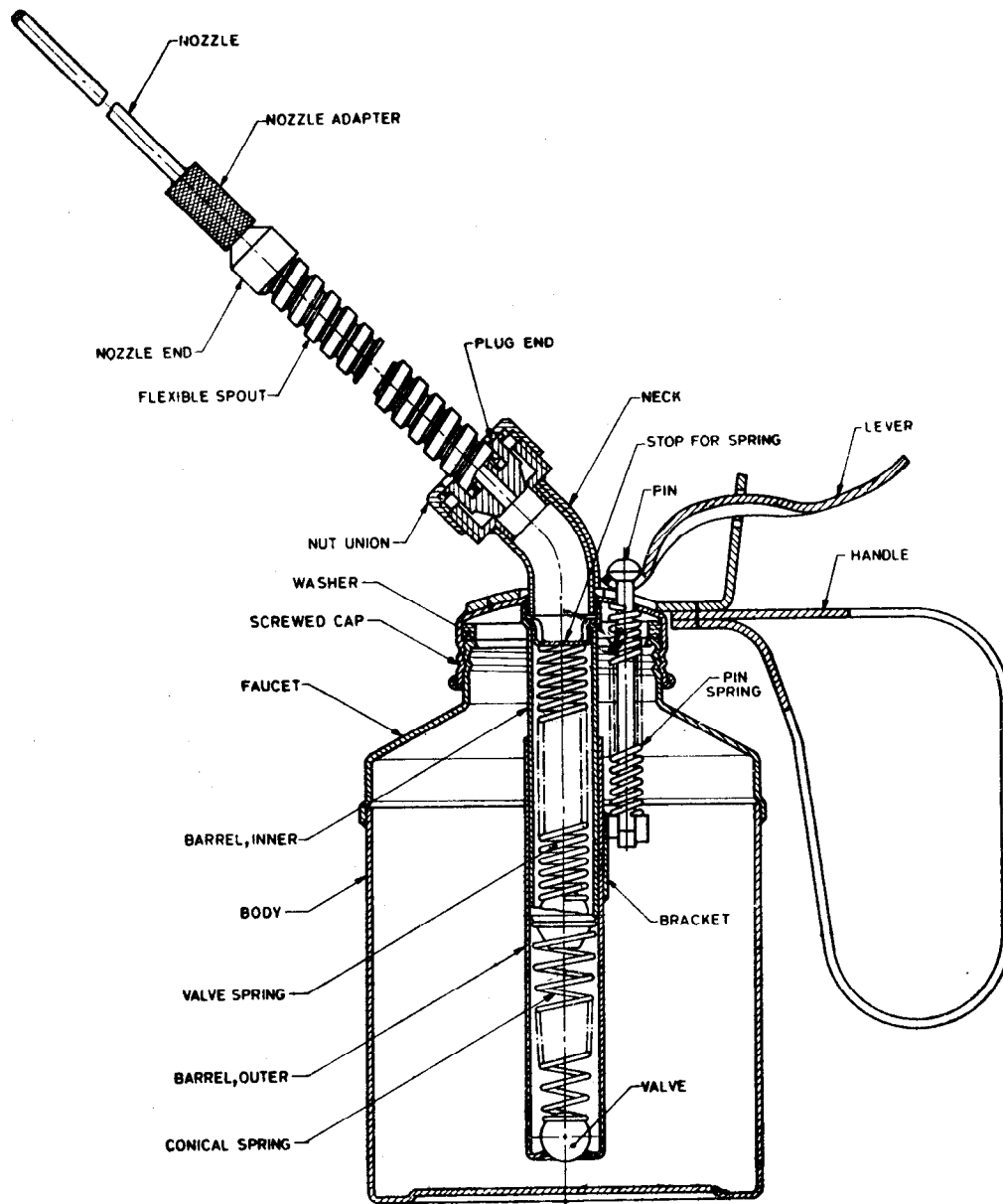
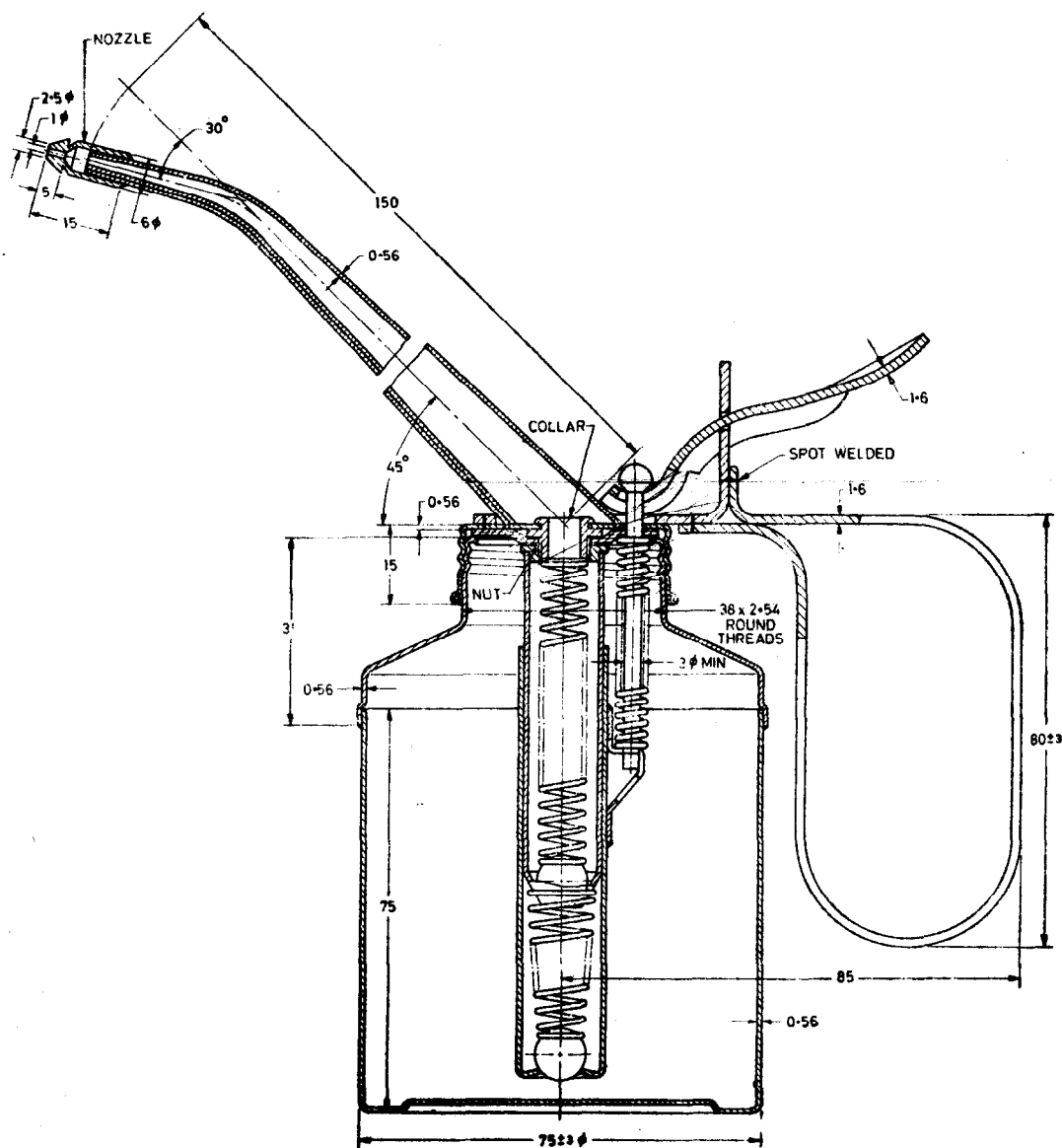


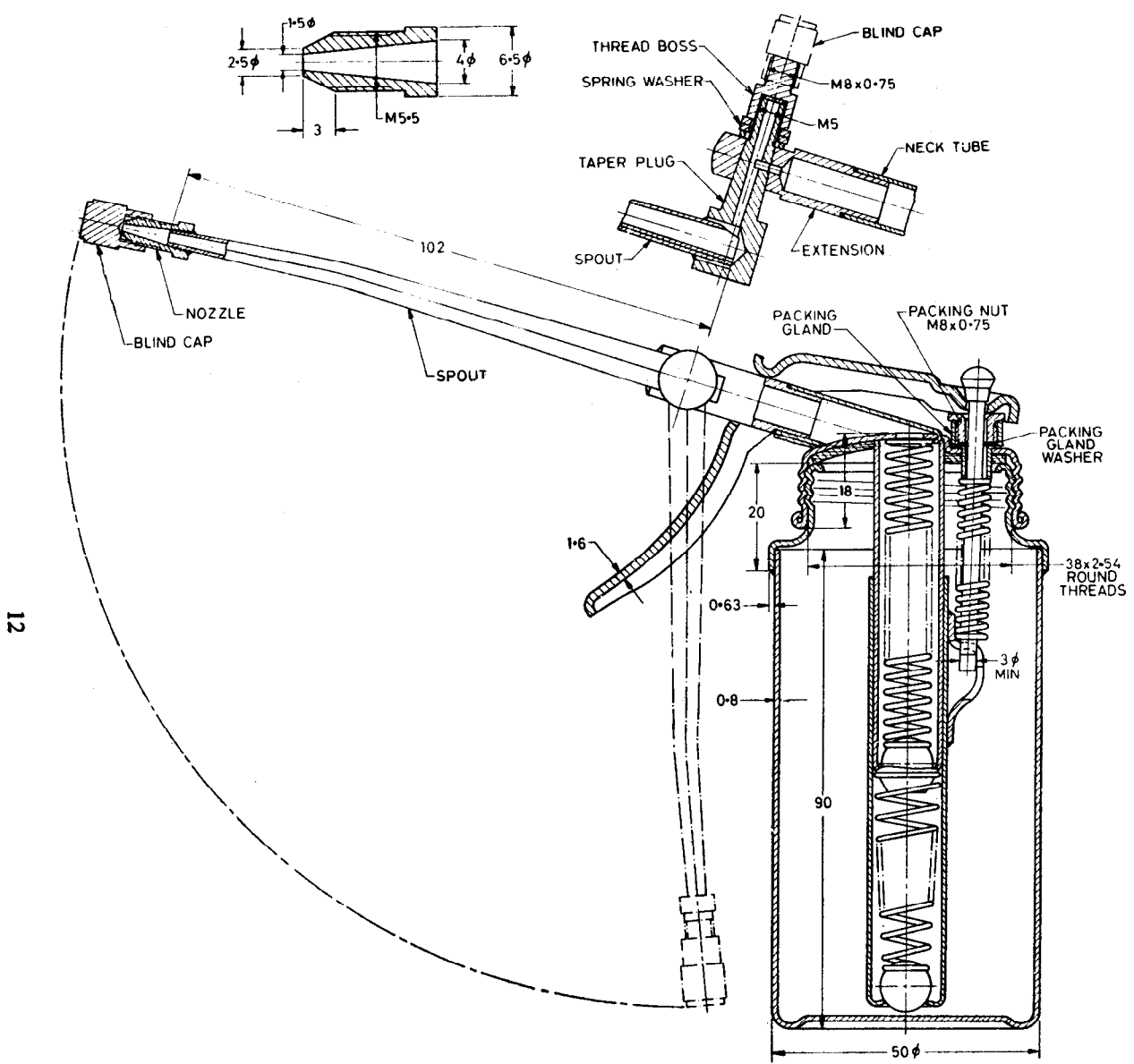
FIG. 1 NOMENCLATURE FOR LEVER TYPE OIL CANS



NOTE — Dimensions are approximate and for guidance only.

All dimensions in millimetres.

FIG. 2 DIMENSIONS FOR LEVER TYPE OIL CANS, TYPE A

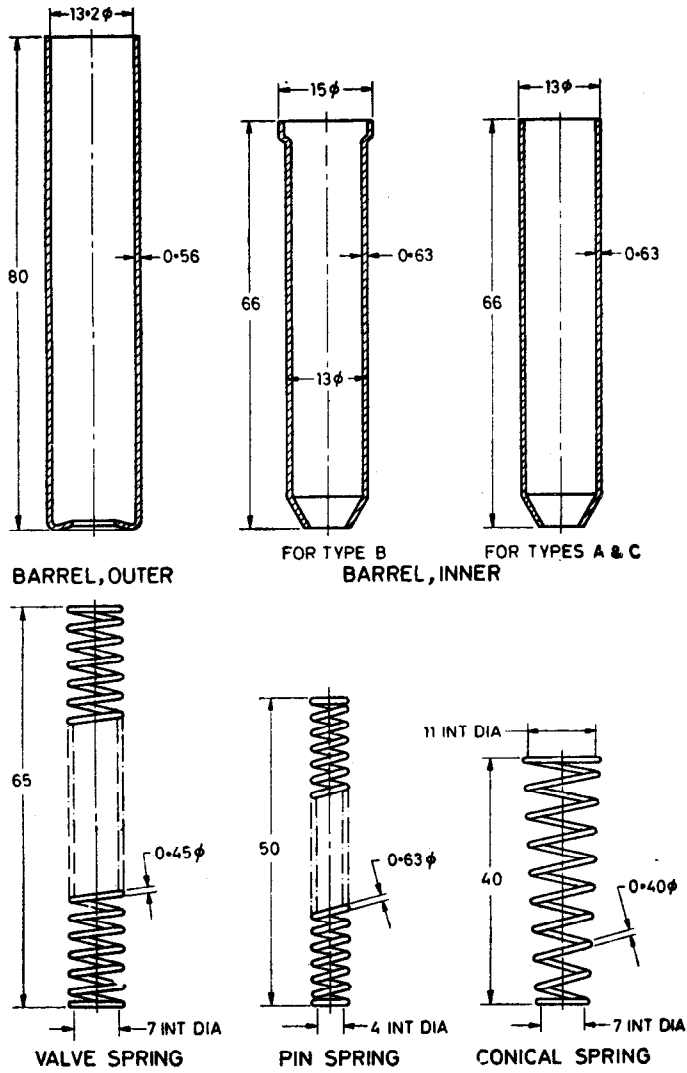


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NOTE — Dimensions are approximate and for guidance only.

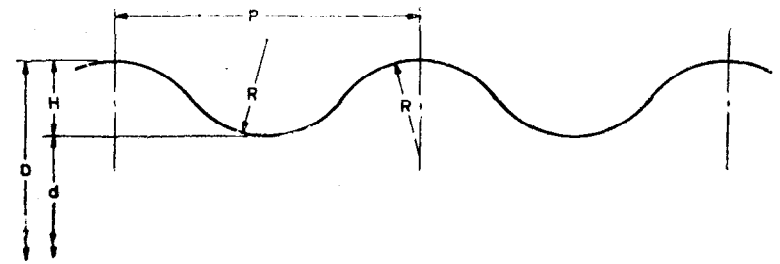
All dimensions in millimetres.

FIG. 4 DIMENSIONS FOR LEVER TYPE OIL CANS, TYPE C



All dimensions in millimetres.

FIG. 5 DIMENSIONS FOR BARRELS AND SPRINGS FOR LEVER
TYPE OIL CANS



14

NOMINAL SIZE	PITCH P	DEPTH H	RADIUS R	EXTERNAL THREAD				INTERNAL THREAD			
				Major Dia D		Minor Dia d		Major Dia D		Minor Dia d	
				<i>Max</i>	<i>Min</i>	<i>Max</i>	<i>Min</i>	<i>Max</i>	<i>Min</i>	<i>Max</i>	<i>Min</i>
38 × 2.54	2.54	0.635	0.792	39.497	39.243	38.227	37.973	40.056	39.776	38.786	38.481

All dimensions in millimetres.

FIG. 6 DIMENSIONS FOR ROUND THREAD

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Definition
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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